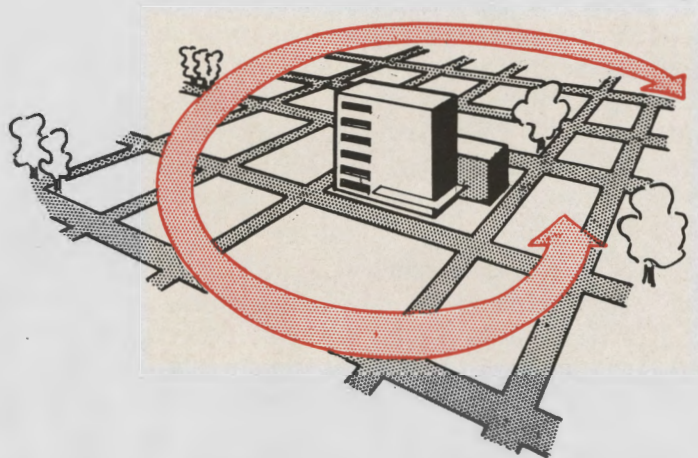


Thoroughfares for Greensboro is presented for your review. The facts and ideas presented directly affect you, your children and your neighbors. Developing plans for the future growth of your city is the job of the Planning Commission and the Planning Department. But the job will be poorly done, or not done at all, unless you decide what kind of a city you want Greensboro to be.

The ideas to be found in these pages are not an official plan: they are published to encourage public discussion and to bring forth suggestions for use when official decisions are made. The thoroughfare plan is the skeletal framework for the city plan, an important step in making a long-range guide for the city's growth. It is the first of a series of plans for Greensboro that will be developed in the future.



A bus pausing on a street corner for passengers . . . a fire truck or an ambulance racing across town . . . a change of shifts in the community's industrial areas . . . an office building emptying its workers onto the sidewalks at the end of a day . . . the continual stream of delivery wagons, diesel trucks, cars, taxis — these are the things which contribute to the city's traffic. According to the time of day, the weather and the season, these uses of the city's streets produce a variety of converging streams, cross currents, and eddies in the flow of traffic.

Not only do the streets form the paths to and from work, shops, schools and homes, but at the surface they carry off rainwater; overhead they provide the means of electric and telephone service; and underneath they accommodate the pipes for gas, water and disposal of sewage. Like the circulatory system of the human body, the city's streets are vital to the life of the community. They are so much a part of our everyday life we scarcely give them a thought. It is only when a storm or a flood puts a clot in this circulatory system that we realize the importance of this system to the city and its people.

Past and Present

The present day streets are a curious mixture of the past and present. Alteration and realteration through the years have changed many of the narrow alley-like streets of the horse-and-buggy days into broad traffic arteries. Yet along some streets it is still possible to see the past blending into the present. Today many of these streets need modernization to handle their tributary sources of traffic. As the

city continues to grow, other problems crop up. New businesses, more people and more cars mean increased traffic. Much of this traffic is headed to and from the central business area; some of it is bound for newly developed industrial sections; and some of it is from out of town and only passing through. The resulting increased traffic volumes reach a point where new thoroughfares may be needed.

Planning for Tomorrow

The trouble points in the street network cannot be cleared up by piecemeal and unrelated improvements. Moreover an improvement which appears to solve a problem today may not meet the needs of tomorrow. The planning staff has been carrying on studies of the city's traffic, trends in residential, business and industrial expansion, growth in population and automobile registration. In the pages following are presented some of the results of these studies and some suggested answers to the city's thoroughfare needs.

A thoroughfare plan must knit into the vast network of city streets an arterial system serving the greatest number of people. The thoroughfare system must be built for the convenience, safety and general welfare of those who use it. The streets must be designed to carry the anticipated traffic with the least possible delay, giving careful consideration to the safety of both pedestrian and motorist. And at the same time, the thoroughfares must not be cut through without regard to the basic institutions of the community — the neighborhoods, the schools and churches, and the recreation centers.

We need thoroughfares that are

convenient

Their location and capacity designed to allow the efficient movement of cars, trucks, pedestrians and emergency vehicles wherever they need to go — as directly as possible, with the least delay, and the fewest complications.

safe

Hazards so reduced as to dispel the traffic accident nightmare. Streets and their crossings safe for motorists and safe for pedestrians.

and at a human scale.

A circulatory system which permits city life to go on at a human scale. Major streets spaced and designed to allow the development of neighborhoods of proper size, and to permit the efficient and attractive use of the land for homes, schools, stores and factories.

148559

Let's look at Greensboro.



Greensboro is 140 years old this year and more than 80,000 people live within its limits. Laid out in 1808 as the new Guilford County seat, it was placed in the exact center of the county. A cotton mill was here as early as 1834, and the first railroad came through in 1856. By 1870 the population was just 500.

Growth came from two things: the influx of cotton mills and related industries, and Greensboro's favorable position as a distribution center. These are still fundamental to the city's economy. By 1900 population had leaped to 10,000. Between 1920 and 1930, the number of inhabitants swelled from 20,000 to over 50,000. Just now we are in the midst of a third leap of population, with all the problems and advantages that it entails.

Today Greensboro, Winston-Salem and High Point form a closely-knit triangle, the largest urbanized area between Richmond and Atlanta. Greensboro itself is on the main line of the Southern Railway between Washington and Atlanta, at a junction with several other branch lines. Two main routes in the recently approved U. S. Inter-regional Highways System pass through here — routes leading to Richmond, Knoxville and Atlanta.



Where people live and work

The map opposite shows the arrangement of land uses in the city.

This is a fundamental description of Greensboro and gives us some important clues as to where the traffic goes. The black areas are the stores and the offices; and the striped areas are the factories and warehouses. Government land, parks and schools are shown in the diagonal dotted pattern, and residential land in the random dots.

Find the dark clusters, the concentration of commerce and industry. These are the "traffic generators," the spots toward which people converge for work or shopping, between which goods and raw materials are shuttled. The downtown business district causes the heaviest traffic flow. But there are other important centers: out East Market and West Lee Streets; at the lower end of South Elm; the Cone Mills; Pomona; and the Battleground-Lawndale area. All of these create traffic currents of their own. Good access must be provided for all. At the same time residential neighborhoods, school and playground sites should be protected from heavy traffic.



The map also shows the existing street system, which is the basis on which we must erect our thoroughfare plan. It is a gridiron centering on Elm and Market Streets, with several diagonals slicing in to the center. At the outskirts, the streets lose their regular lines and tie into the rural roads. The railroad tracks, cutting through the center, add special obstacles to the movement of traffic. Certain difficulties are already apparent — lack of good crosstown routes, forcing much traffic to pass through the center that has no business there; main arteries too narrow and residential streets too open to through traffic; and various jogs, irregularities and dead ends, hindering the free flow of vehicles.

Use of the Land

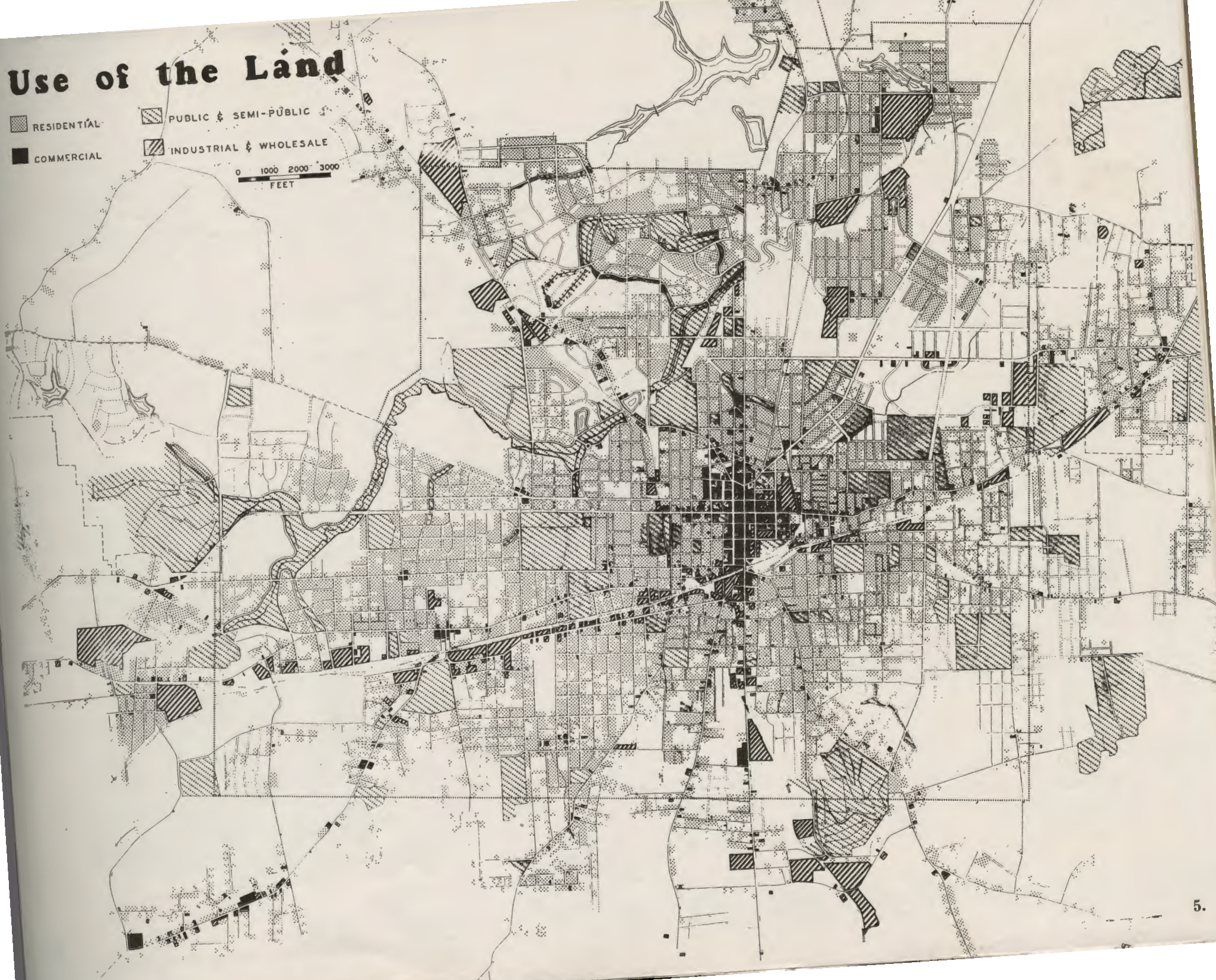
RESIDENTIAL

PUBLIC & SEMI-PUBLIC

COMMERCIAL

INDUSTRIAL & WHOLESALE

0 1000 2000 3000
FEET



How many cars are on our streets, and where are they going? The diagram opposite is the result of a count made at some 50 city intersections. The width of the lines symbolizes the amount of traffic — the wider the line, the greater the number of cars passing that point between 7 a.m. and 6 p.m.

The central district is the focal point; all traffic becomes progressively heavier as it approaches it. But there are crosstown movements of importance on Aycock, Westover, Tate, Benbow, Bessemer and Wendover. Crosstown movements would probably increase substantially if better provision were made for them.

Note that the western approaches carry approximately 1/3 of the traffic into the central district. The in-town end of Summit Avenue carries the heaviest traffic, averaging nearly 1000 cars an hour. The heaviest traffic does not indicate the worst congestion, however, since congestion depends on both the amount of traffic and the capacity of the streets which carry it. One obvious deficiency is apparent at the end of Spring Garden Street, where heavy traffic must wind its way into Walker, Market or Madison to get downtown.

Most of this volume originates within the city itself. There are some directions from which important regional traffic enters the city, nevertheless — principally from the High Point Road and East Market Street, with a lesser amount from West Market, Asheboro and Summit. Bypasses around the built-up areas may be justified for any of this traffic which does not intend to stop in the city.

Driving time

Another test of our street system is the amount of time required to drive from one section to another. The map shows the results of a check of the time needed to move outwards from Jefferson Square along the main radials.

The northeast and the northwest sections of Greensboro are reasonably well served; traffic moves more slowly to the southeast, and particularly slowly to the southwest. It takes longer to get to parts of Piedmont Heights and Glenwood, well within the city limits, than to Battleground Avenue and the Martinsville Road, well outside the city limits. This indicates some basic deficiencies in the system of radial roads.

Study of this diagram will give a good idea of present traffic. But we should perfect a system that will meet the future needs as well. We must look ahead to increasing population, to increasing use of cars, and to the coming changes in the use of the land. What will the future traffic be in Greensboro?

Martin's Studio



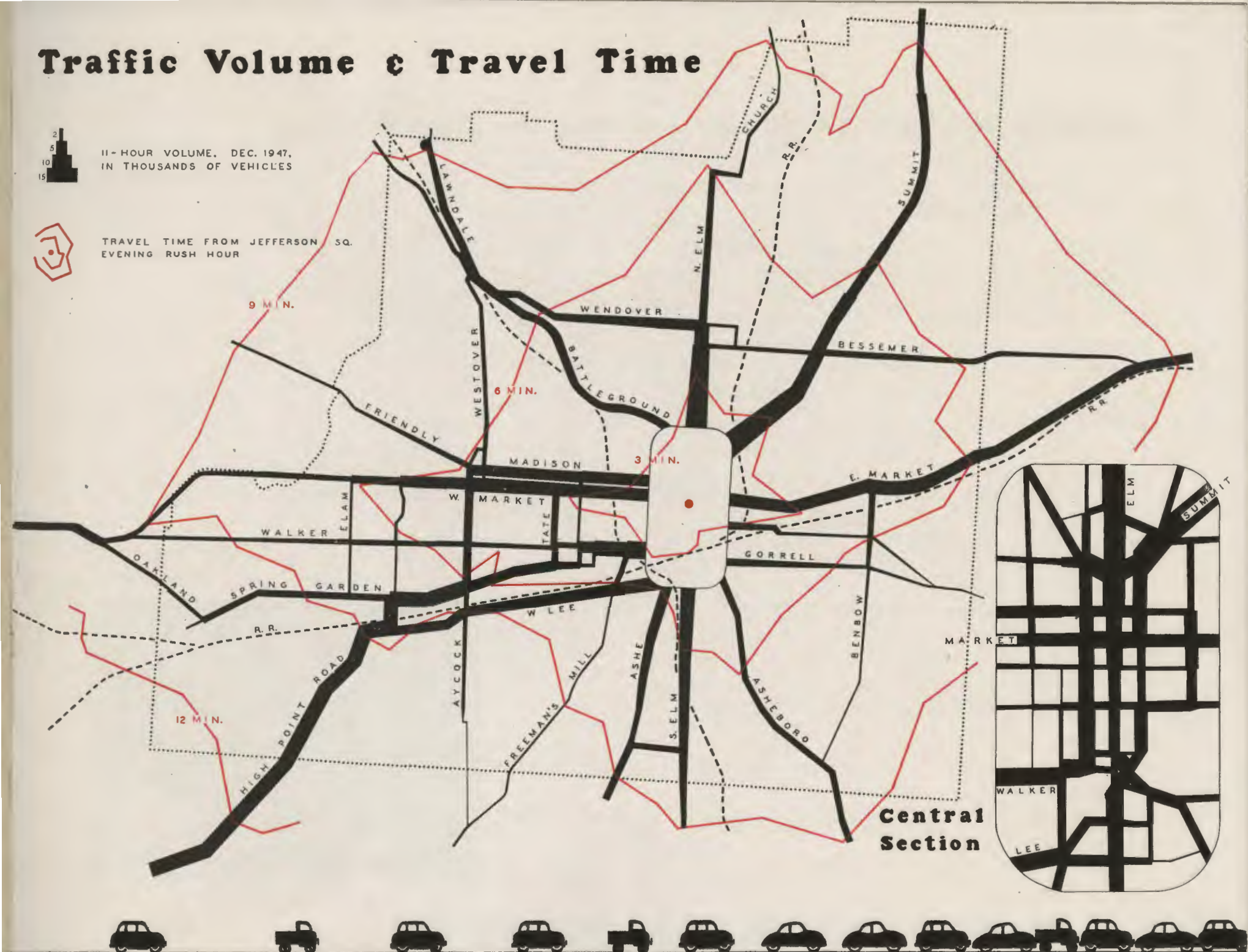
Traffic Volume & Travel Time



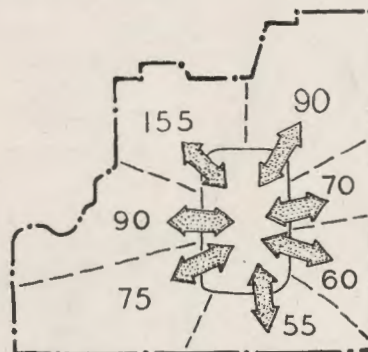
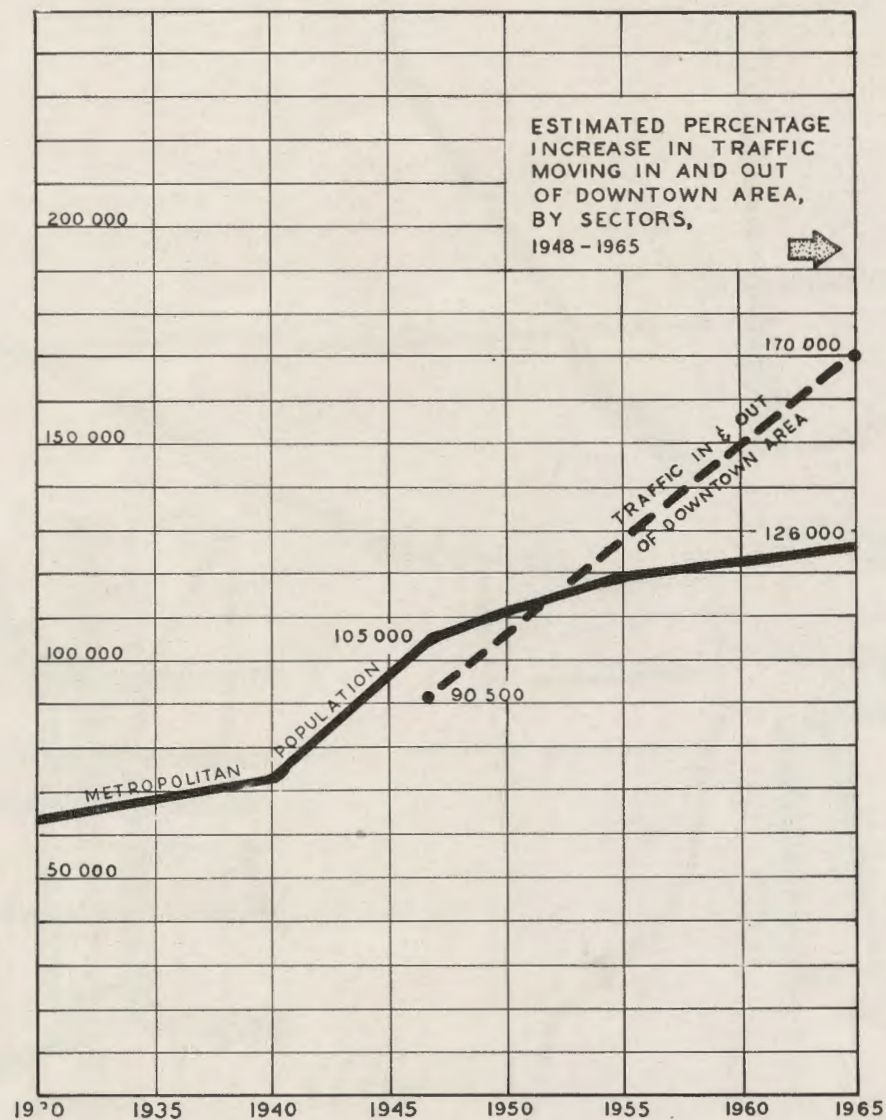
11-HOUR VOLUME, DEC. 1947,
IN THOUSANDS OF VEHICLES



TRAVEL TIME FROM JEFFERSON SQ.
EVENING RUSH HOUR



Estimated Metropolitan Population and Downtown Traffic Volume



Delroit Traffic Engineering Bureau



Any estimate of future changes is hazardous. But if only the immediate problem is before our eyes, then no sooner will some streets be improved at great labor and expense, than they will become inadequate again. Then, too, some streets may be improved far beyond reasonable future needs. We must look ahead as far as we can, estimating when and where the increases will come, and how big they will be.

Of one thing we can be certain. Increasing population, increasing car ownership, and increasing use of cars have year by year swelled the ranks of vehicles on our streets, and will continue to do so.

Estimates of Future Traffic

The estimates of Greensboro's future traffic volume, shown on the opposite page, are based on a study of the future population and future use of automobiles. A recent forecast of metropolitan population made by the Planning Department showed an increase from 105,000 in 1947 to 126,000 in 1965. To gauge the effect on traffic, this population gain of 21,000 from 1947 to 1965 was parcelled out among the various sections of the city and its suburbs according to the availability of vacant land and residential construction trends. In addition, the city-wide ratio of persons to registered vehicles, now 6.8, was assumed to reach 5.0 in 1965. In other words, there will be more people, and more cars for any given number of people. The new cars, and the more intensive use of all cars, directly cause the increase of traffic. Overall traffic gains can be estimated, as well as approximate gains in different sections of the city.

The chart and the little sketch map opposite show some of the results of this study. The present total flow of traffic in and out of the central business district in 11 hours

is about 90,000 vehicles. Over the present street system this is estimated to increase to 170,000 in 1965, a gain of about 90%. The sketch map shows how this percentage increase varies in seven different directions from the center. It is estimated that the increases will be heaviest to the northwest, lightest to the south and southeast.

Using these percentages and those developed for other parts of the city, a traffic flow map for 1965 can be drawn looking like the map on page 7, but with much heavier lines. Such a forecast is full of uncertainties, but by making periodic revisions these uncertainties can one by one be eliminated. It is for this future traffic that a good thoroughfare system must provide.

We now have the basic information to develop a thoroughfare plan. We know where the people live and work, which areas must have good access and which areas should be sheltered from heavy traffic. By comparing traffic flow with existing street capacities, we determine how many traffic lanes are needed at present and develop an estimate as to how many will be needed in the future. Each street improvement proposal can be tested against this information to see if it is needed now, if it is needed in the future, and how urgent it is. Knowing what we can afford, we can determine what we must do now, what can wait a little while, and what can be put off for 10 or 20 years. This is the basis of intelligent municipal action to meet the threat of traffic paralysis.

C

Greensboro needs many kinds of streets. This report deals only with the thoroughfares, the backbone of the street system. Where should these thoroughfares be? The map opposite shows the first ideas of the Planning Commission and the Planning Department, indicating where rights-of-way would be used as now existing, where they would be widened, or where new streets would be cut through.

X

Of most immediate importance are the radial streets, those leading straight into the central business district from all sides. Here we find today's heaviest traffic, and probably tomorrow's. Twelve radial thoroughfares are shown: Summit (1); Church-Davie (2); N. Elm-Asheboro (3); Greene-Ashe (4); Battleground-Lindsay (5); Friendly-Madison-Gaston (6); Market (7); wide High Point Road-Spring Garden (8); present High Point Road-Lee-McConnell (9); Freeman's Mill-Cedar (10); N. C. 22-Meadowview (11); and Washington (12). Most of these already exist; some would require widening or new openings at certain points. Together they are designed to provide an adequate feeder system for the central district in the years to come.

The Inner Loop

X

But to prevent the knotting of traffic at the very heart of the city, we must provide an inner loop. It would allow traffic to move easily around the center, finding the best point of entry, perhaps parking on the edge nearest its destination. Such a loop has been put together from several streets; Paisley and Bishop (13) on the north; Forbis (14) on the east; Lee (15) on the south; and Eugene (16) on the west. The railroad yards to the south interfere with the proper performance of the loop on this side. Percy and Pearson (17) and a tie-in from Greene St. (18) have been added to the system to remedy this defect.

Some of the city traffic is non-stop interregional travel. Today it is forced through the downtown area, adding to

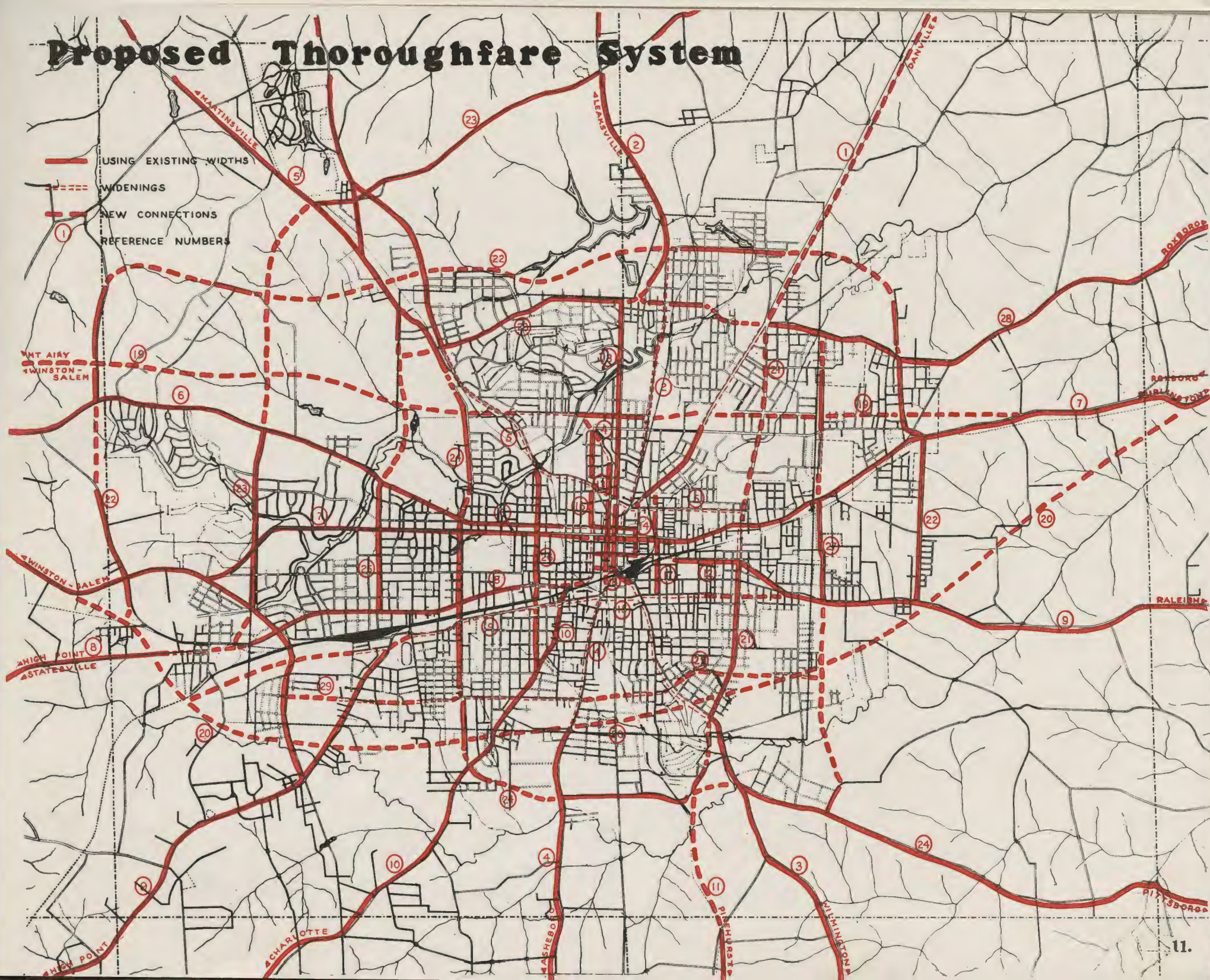
the overload there and suffering irritating delays. For these vehicles three crosstown or by-pass channels are provided. Memorial Drive (19) would allow traffic between the Winston-Salem and Burlington roads to pass through on a direct line, and would in addition serve as an excellent crosstown street. The southern by-pass (20), a new road over largely undeveloped land, would interconnect the Winston-Salem, High Point, Asheboro, Siler City and Burlington roads. It would be the principal high-speed channel for regional traffic, a portion of the Federal Interregional Highway System. On the east, Benbow (21) would connect the southern by-pass with Memorial Drive and the Reidsville road.

Crosstown Thoroughfares

But the thoroughfare system should do more than serve the central district and the main highways. Otherwise the city will tie itself up in the strait jacket of its present development. Three outer loops have been incorporated in the plan: the north loop (22) enclosing the western, northern and eastern sides of the city; Holden-Pisgah Church Road (23) on the western side, which also affords easy movement from the wide High Point Road to Memorial Drive; and Westover-Aycock-Lovett-Willora-Meadowview-Alamance Road (24) on the south and west. Five additional thoroughfares are planned for crosstown movement: Elam (25); Mendenhall-Dillard (26); Cottage Grove-Broad (27); Cornwallis-10th-Phillips Ave. (28); and Vaughn-Bailey-Florida-Lucerne-Midland (29).

This would produce a comprehensive thoroughfare system for Greensboro, based on the existing form of the city, designed to meet present and future needs and yet flexible enough to meet any unexpected shifts. Study it carefully — check it against the information in this booklet; check it against your own knowledge. Intelligent public comment is a necessity for the development of a sound thoroughfare plan.

Proposed Thoroughfare System





Martin's Studio
Martin's Studio
Detroit City Plan Commission

Each one of the proposed thoroughfares serves a particular need, and requires its own appropriate design. They should be wide or narrow, with frequent or limited access, divided or undivided, with or without grade separations, all according to the speed, volume, and destination of the traffic that will use them.

The photographs show some of the wide variations in good street design, depending on the use. One shows a minor residential street in Greensboro, designed to discourage through traffic and yet serve the abutting residents. The second picture shows West Market Street, one of several major thoroughfares carrying traffic to the business center. Built for convenience, safety and beauty, it makes a fine approach to our city. The third picture, taken in another locality, shows an arterial highway with limited access. It is the kind of thoroughfare which the federal government recommends for interregional highways passing through cities.

The Regional Network

Good connections to towns and rural areas in the region, the state, and the nation are just as important to Greensboro as an efficient municipal thoroughfare system. Provision for these roads is beyond the city's power, but the city plan must be keyed into the regional highway network.

Studies made of the regional highways as they affect Greensboro, indicate the need for several new connections: principally to Danville, Martinsville, Walnut Cove and Mt. Airy, Charlotte, Wadesboro, Raleigh, and Roxboro. It may be possible to develop a new interstate superhighway from the port of Wilmington through the vicinity of Greensboro to Bluefield, and on to the Middle West. Such a connection would open up a new avenue of trade of national importance.

Whatever the coming shifts in the surrounding highway network, the proposed metropolitan plan, with its outer belt lines and well-developed radials, is designed to meet these future developments as they occur.

C

h